

What is claimed is:

1. A central network device for use in a power integrated local area network,
the central network device comprising:
 - 5 an electrochemical power source; and
 - a network interface configured to communicate with a plurality of
member network devices and to deliver power, from
energy stored by the electrochemical power source, to at least
one selected member network device, the selected member
10 network device being capable of accepting power over the
power integrated local area network.
2. A central network device according to claim 1, wherein the power
integrated local area network is configured to execute the Ethernet
15 protocol.
3. A central network device according to claim 1, further comprising
networking logic chosen from the group consisting of a switch, a hub, a
router, and a multiplexer.
- 20 4. A central network device according to claim 1, wherein the power
integrated local area network is configured to operate according to a Power
Ethernet Standard.
- 25 5. A central network device according to claim 4, the central network device
being configured to deliver power and data through an MDI-X compliant
port.
6. A central network device according to claim 1, further comprising a
30 housing shared by the electrochemical power source and the network

interface.

7. A central network device according to claim 1, further comprising power rectification circuitry.

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8. A central network device according to claim 7, further comprising an AC to DC converter.

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9. A central network device according to claim 7, further comprising a DC to DC converter.

10. A central network device according to claim 1, wherein the electrochemical power source comprises a rechargeable battery.

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11. A central network device according to claim 10, wherein the rechargeable battery is configured to be charged by an AC to DC converter.

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12. A central network device according to claim 10, wherein the rechargeable battery is configured to provide power to a DC to DC converter, the DC to DC converter being configured to power the at least one selected member network device.

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13. A central network device according to claim 1, wherein the electrochemical power source is configured to provide backup power to the at least one selected member network device in the event of an interruption of delivery of primary power to the central network device.

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14. A central network device according to claim 1, wherein the plurality of member network devices comprises a network appliance.

15. A central network device according to claim 14, wherein the network appliance comprises:
a peripheral device configured to transmit data to the power integrated local area network;
5 a communication engine operably coupled with the peripheral device, the communication engine configured to control data transmission via the power integrated local area network; and
an appliance network interface operably coupled with the communication engine, the appliance network interface being configured to transmit
10 data to and to receive data from the power integrated local area network, data transfer between the peripheral device and the power integrated local area network being forwarded via the appliance network interface.
- 15 16. A power integrated local area network, the network comprising:
a plurality of member network devices; and
a central network device configured to communicate with the plurality of member network devices, and to deliver power, from energy stored
20 in an electrochemical power source, to at least one selected member network device that is capable of accepting power from the central network device.
17. A central network device for use in a power integrated local area network, the central network device comprising:
25 networking logic, configured to communicate with a plurality of member network devices; and
electrochemical power source means for providing power to at least one selected member network device, the selected member network device being capable of accepting power over the power integrated
30 local area network.

18. A central network device according to claim 17, wherein the power integrated local area network is configured to execute the Ethernet protocol.

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19. A central network device according to claim 17, wherein the networking logic is chosen from the group consisting of a switch, a hub, a router, and a multiplexer.

10 20. A central network device according to claim 17, wherein the power integrated local area network is configured to operate according to a Power Ethernet Standard.

15 21. A central network device according to claim 20, the central network device being configured to deliver power and data through an MDI-X compliant port.

20 22. A central network device according to claim 17, further comprising a housing shared by the electrochemical power source means and the networking logic.

23. A central network device according to claim 17, further comprising power rectification circuitry.

25 24. A central network device according to claim 23, further comprising an AC to DC converter.

25. A central network device according to claim 23, further comprising a DC to DC converter.

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26. A central network device according to claim 17, wherein the electrochemical power source means comprises a rechargeable battery.
27. A central network device according to claim 26, wherein the rechargeable battery is configured to be charged by an AC to DC converter.
28. A central network device according to claim 26, wherein the rechargeable battery is configured to provide power to a DC to DC converter, the DC to DC converter being configured to power the at least one selected member network device.
29. A central network device according to claim 17, wherein the electrochemical power source means is configured to provide backup power to the at least one selected member network device in the event of an interruption of delivery of primary power to the central network device.
30. A central network device according to claim 17, wherein the plurality of member network devices comprises a network appliance.
31. A central network device according to claim 30, wherein the network appliance comprises:
a peripheral device configured to transmit data to the power integrated local area network;
a communication engine operably coupled with the peripheral device, the communication engine configured to control data transmission via the power integrated local area network; and
an appliance network interface operably coupled with the communication engine, the appliance network interface being configured to transmit data to and to receive data from the power integrated local area network, data transfer between the peripheral device and the power

integrated local area network being forwarded via the appliance network interface.

32. A method for powering a local area network using power from a central network device, the method comprising:
selecting at least one member network device capable of accepting power over the local area network; and
providing power, from energy stored by an electrochemical power source, to the at least one selected member network device.

33. A method according to claim 32, wherein the method comprises:
executing the Ethernet protocol on the local area network.

34. A method according to claim 32, wherein the method comprises:
housing the electrochemical power source in a common enclosure with networking logic chosen from the group consisting of a switch, a hub, a router, and a multiplexer.

35. A method according to claim 32, wherein the method comprises:
operating the local area network according to a Power Ethernet Standard.

36. A method according to claim 35, wherein the method comprises:
delivering power and data through an MDI-X compliant port.

37. A method according to claim 32, wherein the method comprises:
housing rectification circuitry in a common enclosure with the electrochemical power source.

38. A method according to claim 37, wherein the method comprises:
housing an AC to DC converter in the common enclosure.

39. A method according to claim 37, wherein the method comprises:
housing a DC to DC converter in the common enclosure.

5 40. A method according to claim 32, wherein the method comprises:
housing a rechargeable battery in a common enclosure with networking
logic.

10 41. A method according to claim 40, wherein the method comprises:
charging the rechargeable battery with an AC to DC converter.

42. A method according to claim 40, wherein the method comprises:
delivering power from the rechargeable battery to a DC to DC converter;
and
15 delivering power from the DC to DC converter to the at least one selected
member network devices.

20 43. A method according to claim 32, wherein the method comprises:
delivering backup power from the electrochemical power source to the at
least one selected member network device, in the event of an interruption
of delivery of primary power to the central network device.

25 44. A method according to claim 32, wherein the method comprises:
delivering power from the electrochemical power source to a network
appliance.

30 45. A method according to claim 44, wherein the method comprises delivering
power to a network appliance that comprises:
a peripheral device configured to transmit data to the local area network;
a communication engine operably coupled with the peripheral device, the

communication engine configured to control data transmission via
the local area network; and
an appliance network interface operably coupled with the communication
engine, the appliance network interface being configured to transmit
5 data to and to receive data from the local area network, data transfer
between the peripheral device and the local area network being
forwarded via the appliance network interface.

46. A central network device for use in a power integrated local area network,
10 the central network device comprising:
a housing;
networking logic, enclosed by the housing, configured to communicate
with a plurality of member network devices;
an electrochemical power source, sharing the housing with the
15 networking logic, for storing energy to provide power for the
member network devices; and
rectification circuitry, sharing the housing with the networking logic and
the electrochemical power source,
wherein the power integrated local area network is configured to execute
20 the Ethernet protocol.

47. A method for powering a local area network using power from a central
network device, the method comprising:
housing an electrochemical power source in a common enclosure with
25 networking logic configured to communicate with a plurality of
member network devices;
rectifying primary power that is delivered to the central network device, to
charge the electrochemical power source;
delivering power stored by the electrochemical power source to at least one
30 of the plurality of member network devices; and

executing the Ethernet protocol on the local area network.

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